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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/789,187      | 02/27/2004  | Hooman Honary        | 80107.118US1        | 6949             |

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LeMoine Patent Services, PLLC  
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Minneapolis, MN 55402

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| EXAMINER |
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DIMYAN, MAGID Y

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| ART UNIT | PAPER NUMBER |
| 2825     |              |

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| MAIL DATE  | DELIVERY MODE |
| 10/15/2007 | PAPER         |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/789,187             | HONARY ET AL.       |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Magid Y. Dimyan        | 2825                |  |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 2/27/04-12/18/06.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 21-30 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 18 December 2006 is/are: a) accepted or b) objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 12/18/06/12/03/06.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

This pertains to Application No. 10/789,187, filed 27 February 2004. Claims 1 – 30 are pending in this Application.

### ***Election/Restrictions***

1. This application contains claims directed to the following patentably distinct species of the claimed invention.
2. The species are independent or distinct because:

**Species I, claims 1 – 20** drawn to allocating mesh networks for data and control in a heterogeneous reconfigurable device.

**Species II, claims 21 – 26**, drawn to a dual mesh interconnect network with configurable processing elements.

**Species III claims 27 – 30**, drawn to an electronic system with an antenna, an RF circuit, and a reconfigurable device coupled to the RF circuit.

The species are independent or distinct because claims to the different species recite the mutually exclusive characteristics of such species. In addition, these species are not obvious variants of each other based on the current record.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently no claims are generic.

There is an examination and search burden for these patentably distinct species due to their mutually exclusive characteristics. The species require a different field of search

(e.g., searching different classes/subclasses or electronic resources, or employing different search queries); and/or the prior art applicable to one species would not likely be applicable to another species; and/or the species are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

**Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.**

The election of the species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected species.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the species unpatentable over the prior art,

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the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other species.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

3. During a telephone conversation with Mr. Dana LeMoine (reg. No. 40,062) on 10/2/07, a provisional election was made without traverse and without prejudice to prosecute the invention of **Species I (claims 1 – 20)**. Affirmation of this election must be made by applicants in replying to the office action. **Claims 21 – 30** are withdrawn from further consideration by the examiner (see 37 CFR 1.142(b)) as being drawn to non – elected inventions. **Applicants are requested to cancel claims 21 – 30 in the next office communication.**

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over “A VLSI 128 – Processor Chip for Multiresolution Image Processing” to Albanesi et al. (hereinafter, “Albanesi”) in view of U.S. Patent No. 7,200,837 B2 to Stevens.**

6. **Referring to claims 1, 11 and 15,** Albenesi discloses a method (claim 1 – see Albenesi, section 2, page 297) and an apparatus with software (claims 11 and 15 – see Albenesi, section 5, page 303) for allocating a plurality of mesh networks for data and control in a reconfigurable device (see Albenesi – Fig. 4; page 298, which disclose a dual mesh used for data (interconnect), and control (reconfiguration).

**Regarding claim 7,** Albenesi discloses a method that includes translating a design description into a configuration for a plurality of processing elements (see Albenesi (sections 1, 2, pp. 296 – 298); and allocating a plurality of mesh interconnect networks between data and control (see Albenesi – Fig. 4; and page 298).

But Albenesi does not teach the claimed element of including a heterogeneous reconfigurable device in his invention, as claimed in claims 1, 7, 11 and 15.

However, Stevens discloses a system, a method and software for configuring an adaptive computing architecture or device (see Stevens – Abstract) that indeed includes heterogeneous reconfigurable elements in his invention (see Stevens – col. 1, II, 43 – 51).

Since heterogeneous reconfigurable elements would allow the system to carry out specialized computational tasks more efficiently, it would therefore be obvious to a person of ordinary skill in the art at the time of the invention to

modify the teachings of Albanesi with the teaching of Stevens to provide a method and apparatus for allocating mesh networks for data and control in a heterogeneous reconfigurable device.

7. **As per claim 2,** see Albanesi – section 2.3, page 299, which discloses using a memory with a protocol file (i.e., configuration file) for configuring the processing elements that includes allocation information for the mesh networks, as claimed.

8. **As per claims 3 – 6,** see Albanesi – Figs. 1, 3, 4; sections 2 and 2.1, pp. 297, 298 which disclose the different levels (i.e., planes) for allocating control and data, as claimed.

9. **As for claim 8,** see items (6) – (8) above, as well as Albanesi – sections 2.1, 2.2, which disclose how constraints can be met with a shared data and control mesh network.

10. **As for claims 9 and 10,** see Albanesi – section 2.3, pages 299 and 300, which show how the configuration file is stored in a memory.

11. **Claims 12, 13 and 14** contain the same limitations found in claims 3, 4 and 5, respectively, and therefore the same rejections also apply.

12. **As per claim 16,** see items (6) – (8) above, as well as sections 2.5, 3; pages 300, 301, which teach how allocation of the mesh networks between data and control is performed, as claimed.

13. **As per claim 17,** it is inherently known that processing (switching) elements are configurable to communicate over mesh networks using packets of information.

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14. **Claims 18, 19 and 20** contain the same limitations of claims 3, 4 and 5, respectively, and thus the same rejections apply.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Magid Y. Dimyan whose telephone number is (571) 272-1889. The examiner can normally be reached on Monday - Friday 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on (571) 272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Magid Y Dimyan  
Examiner  
Art Unit 2825

myd  
04 October 2007

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JACK CHIANG  
SUPERVISORY PATENT EXAMINER